Division of Plan Review
The Town of Leesburg in Virginia
Final Site Plan Drawings
Checklist

File Date: _____ Plan Control Number: _____

Project: _____

Owner: _____

Design Firm: _____

Contact Engineer: _____ Phone Number: _____

		Deficiencies	
	OK	Sheet #	Notes
General Information (Sections 10-120, 1 and 10-110, 1)			
▪ Name and proposed use of proposed development ▪ Names and addresses of owners of record and subdivider ▪ Names, addresses, seal and signature of the licensed professional preparing the drawings ▪ Deed reference, tax map, block and parcel number ▪ Vicinity map provided at a scale not more than 1" = 1000' ▪ Existing zoning, proffers and covenants listed ▪ All adjoining properties with owner name, address, zoning and use listed ▪ Detailed signed cost estimate including items within easements			
Project Tabulations (Sections 10-120, 1 and 10-110, 1A)			
▪ Gross acreage of development to the nearest 1/10 acre ▪ Number of parking spaces required and provided based on highest and lowest parking demand in zone, proposed demand based on use ▪ Interior and total lot landscaping tabulations ▪ Height of building ▪ Minimum and provided yard requirements on each boundary ▪ Minimum and provided buffers ▪ Percentage of lot covered by building, parking, drives, sidewalks and landscaping ▪ Proposed floor area ratio (FAR)			

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Existing Site Conditions (Sections 10-120, 1 and 10-110, 1A			
▪ Certified map of survey with all property lines, topography, maximum 5' contour interval ▪ Location of rights-of-way, roadways, driveway access points and explanation of any easements ▪ Location of overland water courses, drainage structures and FEMA Floodplain limits ▪ Location of tree cover and areas of steep slopes broken into two categories, those between 15% and 25% and those greater than 25%			
Graphic Requirement (Sections 10-120, 1 and 10-110, 1B)			
▪ Sheets 24" x 36" numbered, drawn clearly and legible at a scale not less than 30' to the inch labeled "Construction Drawings" with match lines and corresponding sheet numbering system where required ▪ Blank space 2" x 3" on approved cover sheet for town approvals ▪ Construction drawings bear seal and signature of professional preparing drawings			
Profile			
▪ Profiles drawn to a scale of not more than 1" = 30' horizontally and 1" = 5' vertically ▪ Water systems - existing and proposed grades, cover (4' minimum and 6' maximum) and clearance at all utility crossings, pipe material, joints, tees, valves, bend locations, thrust restraints and strapping, trench and bedding requirements ▪ Sanitary systems - existing and proposed grades, cover and clearance at all utility crossings, pipe length, pipe material, pipe slope, inverts in/out at all manholes, top elevation, 100-year WSEL, type of frame and cover ▪ Storm drainage - existing and proposed grades, cover and clearance at all utility crossings, pipe material and class, pipe lengths, pipe slope, inverts in/out and top elevation at all structures, 10-year WSEL at inlets, type and length of top or inlet ▪ Transportation - existing and proposed grades, cover and clearance of all utility crossings, stations of vertical curves, elevations RT top, LT top, centerline, length of curves, sight distances, locations of PI, PC, PT, PVI, PVC, PVT, high/low point, begin and end of transitions for super-elevation, grades in and out of curves, entrances, stations, structure stations			

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Article 2: Water and Fire Regulations Systems ▪ Town Council approval of extension (2-110) ▪ Virginia Department of Health approval (2-110 and 2-370) (15 or more equivalent residential connections 6,000 gpd or private well) ▪ Location of proposed watermains within streets (2-121) (10' north or east of centerline or outside edge of sanitary sewer) ▪ Meter located within utility strip (2-121) ▪ Water service calculations (2-122) (average day demand, peak hour demands, maximum day demands, maximum day with fire flow and 20 psi minimum pressure in accordance with master plan) ▪ Cover requirements (2-122) (cover less than 3' or greater than 8' with strength calculations, request special approval on cover sheet) ▪ Valves (2-122) (four valves at crosses, three at tees except for fire hydrant leads, and one every 500' on transmission mains) ▪ Air releases and blow-offs (2-122) (all high points, all low points and terminal points; automatic releases required on mains 12" and greater) ▪ Thrust blocks (2-122) (required at all hydrants, valves, bends, tees, crosses and caps including details) ▪ Easements (2-123) (on private property, 1:1 side slope from the outside edge of the pipe extending from the invert of the pipe to the proposed finished grade with a minimum easement width of 10') ▪ Oversized mains (2-123) (submit unit prices for oversized mains and appurtenances for Director approval) ▪ Private system requirements (2-125) ▪ Cross connection controls (2-126) ▪ ISO calculations (2-210 and 2-400) ▪ Minimum fire flow requirements (2-220) ▪ Interim fire flow (2-230) (request for interim fire flow on cover sheet) ▪ Fire hydrant coverage plan (2-240) (300' maximum coverage "as hose lies") ▪ Fire hydrant, Siamese and sprinkler connection locations (2-240) (fire hydrant minimum 50' from building and maximum 100' from Siamese connection) ▪ Fire Marshal approval (2-240) (on cover sheet) ▪ Fire lanes (2-250) (18' in width with a maximum 5% slope. Buildings exceeding 50' height require access front and rear) ▪ Pipe fitting deflection and backfill requirements (2-310) ▪ Mains installed within casing require cathodic protection (2-337) ▪ Separation with sanitary sewer (2-350 and 2-121) (minimum 10' horizontal, 1.5' vertical) ▪ Support sewers over watermains (2-350) (structural support of sewer above water) ▪ Fire hydrant valve (2-390) (2nd valve required if hydrant waterline exceeds 50') ▪ Notes and details. Necessary for the construction, maintenance and inspection of the public water system			

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Article 4: Sewage and Solid Waste Disposal ▪ Virginia Department of Health approval (4-110 and 4-130) (serving 400 persons and/or 40,000 gpd or more) ▪ Approval by Town Council (4-110) (application for sewerage service requiring extension of existing facilities) ▪ Compliance with Town's Subdivision and Land Development Ordinance (4-120) ▪ Calculations providing for peak flow discharges (available capacities) (4-130) ▪ Location and separation of sewers (4-130) (See also Article 2: 2-350) ▪ Locate sewers clear of stormwater management impoundment and embankments areas and no closer than 15' downstream of any outfall or spillway. (4-130) ▪ Sewer crossing other utilities (4-130) (ideally cross at approximately 90°) ▪ Cleanouts properly located (4-130) (5' building, property line, easement line) ▪ Waiver for cleanout locations (4-130) (noted on cover sheet) ▪ Velocity in sewer. Between 2 fps minimum and 15 fps maximum (4-130) ▪ Depth of cover within specifications (4-130) Minimum cover traffic 6', outside 3', maximum cover 18', depth greater than 12' require strength calculations, requests for waiver recorded on cover sheet) ▪ Sanitary forcemain computations (4-130) (minimum main velocity 2 fps, maximum 8 fps, termination at manhole with gravity flow) ▪ Location and width of easements (4-130) (1:1 side slope from the outside edge of the pipe extending from the invert of the pipe to the proposed finished grade with a minimum easement width of 10') ▪ Class of bedding provided for each sewer run (4-140) ▪ Approval for private systems (4-200) ▪ Description of method of storage collection disposal (4-300) ▪ Container size computations (4-300) ▪ Type of storage employed listed (4-310) (central refuge rooms or individual containers) ▪ Statement regarding collection (4-320) (town, private, property management) ▪ Statement of disposal with details of storage area (4-340) (provide proper screening) ▪ Notes and details. Necessary for the construction, maintenance and inspection of the public sewerage system			

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Article 5: Storm Drainage ▪ Concentrated flows for the 10-year storm in excess of 4 cfs contained within the drainage system (5-100) ▪ Drainage system capacity for 10-year event (5-210) ▪ Compliance with storm drainage master plan (5-210) ▪ Overland relief route and limits for infrequent events shown (5-210) ▪ Minimum easement requirements for pipe system (5-220) (1:1 side slope, 24" larger and multiplies 1:1 from side wall, minimum 15') ▪ Minimum easement requirements for channel system (5-220) (minimum 15' TW less than 5', TW + 10' access strip for TW t'-10', TW + 10' access both sides for TW greater than 10') ▪ Drainage divides less than 200 AC (5-231) (rational method) ▪ Drainage divides greater than 200 AC (5-232) (USDA-SCS Methodology) ▪ Approved pipe materials (5-242) (Only RCP accepted for public maintenance; vitrified clay, cast iron, corrugated metal, PVC allowed for private systems) ▪ Minimum cover required 2' (5-242) (requests for less cover on cover sheet) ▪ Velocity requirements for pipe system (5-242) (minimum 2.5 fps full, maximum 15 fps full or Director approval) ▪ Trunk line of system matching crowns (5-242) ▪ Spread requirements (5-244) (max. 8' spread roadways, I = 4.0 in/hr) ▪ Bypass flow (5-244) (inlets must be clearly marked on plans) ▪ Protective railing (5-247) (for vertical drops of 18" or more) ▪ Hydraulic grade line computations and plotting on profiles (5-249) ▪ Channel/swale capacity and adequate channel linings (5-252) (design 10-year event, maximum side slope 3:1 grass-lined) ▪ Swale capacity with easements (5-254) (maximum length 300', maximum 4 cfs) ▪ Adequate culvert design (5-260) (minimum 30' from outside edge ultimate width of pavement, include inlet and outlet control computation) ▪ Outfall to adequate channel (5-311) (minimum 300' beyond site) ▪ Adequate pond routing (5-314) ▪ Adequate spillway design (5-322) ▪ Provide dam failure analysis/classification (5-324 and 5-520) ▪ Adequate geologic investigation (5-324) ▪ Adequate embankment and size/slope/protection (5-324) ▪ Adequate seepage control (5-324)			

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Article 5: Storm Drainage (con't). ▪ Adequate spillway design principle/emergency (5-324) ▪ Adequate minimum surface area/depth for wet ponds (5-326) ▪ Pond design elevations/construction (5-328) ▪ Details provided for construction (5-328) ▪ Details and computations for design criteria of rooftop facilities (5-332) ▪ Details and computations necessary for design and construction underground detention facilities (5-342) (public maintenance must be reinforced concrete) ▪ Porous pavement designs require prior approval of Director (5-351) ▪ Mix design approved/storm routing (5-352) ▪ Subsurface investigation perc rates (5-352) ▪ Regional facilities (5-360) (100 acres, two sites minimum) ▪ Maintenance provisions for access to detention facilities (5-380) ▪ Prior approval required by Director for work inside floodplains (5-410) ▪ Pre-developed limits/post development limits (5-410) ▪ HEC–2 pre/post (5-410) ▪ Alternate access routes provided (5-420) ▪ Floodplain study to town, FEMA (5-422) ▪ Approval by FEMA (5-422) ▪ Floodplain study required (5-431) (development, developments drainage area 50+ acres) ▪ Approval by Director of Manning's "n" value (5-431) ▪ Cross section locations (5-431) (300' up and downstream of point where pre/post WSEL is the same) ▪ Approval of Director required for dam design (5-511) ▪ Highway embankments not used as dams (5-512) ▪ Provide maintenance and inspection agreement (5-512) ▪ Separate emergency spillway (5-520) (100-year un-detained flow) ▪ Embankment designed proper width/height (5-520) (maximum 2' higher than 100-year elevation) ▪ Proper flood easements provided (5-520) ▪ Provide BMP at Director's request (5-610) ▪ Pond volume provided (5-620) ▪ Release times (5-620) (40 hours minimum, 48 hours maximum) ▪ Notes and details. Necessary for construction, maintenance and inspection of public sewer systems			

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Article 6: Environmental Protection ▪ Erosion and sediment control required (6-110) (areas over 500 square feet or removal or addition of 12" of soil) ▪ Compliance with Virginia Erosion and Sediment Handbook (6-110) ▪ Inclusion of detailed narrative (6-220) (calculation of approximate cut and fill volumes, erosion control measures, final stabilization, land disturbing schedule) ▪ Note of "No Area Left Denuded for Longer Than Thirty Days" (6-220) ▪ Provision of proper surety for erosion control measures (6-300) ▪ Conformance with this section (6-400) (chemical & petroleum liquids) ▪ Notes and details necessary for construction and maintenance			
Article 7: Transportation ▪ Compliance with VDOT standards (7-110) (except as revised herein) ▪ Inclusion of traffic study (7-111) (required when adjacent to road carrying 500 vpd or more with current 120-year counts) ▪ Computations detailed (7-111) (ADT, PHV, directional split and LOS) ▪ Location of traffic control devices (7-111) ▪ Conformance with functional classification (7-220) ▪ Conformance with geometric design guides (7-300) (industrial zones 52' minimum, width FC to FC) ▪ Conformance with Battlefield Parkway section (7-300) ▪ Inclusion of roadway elevations (7-310) (CL, intersection, curb returns, curb inlets, manholes, begin and end vertical curves, 50' tan, 25' vertical curves) ▪ Cul-de-sac criteria (max. centerline slope 3%; minimum radius right-of-way = 55', and pavement = 45') (7-310) ▪ Proper street signage locations (7-310) ▪ Proper location of ramps for handicapped access and movement (7-340) ▪ Guardrail note shown on plans (7-350) ▪ Guardrail type/location/height shown (7-350) ▪ Proper entrance location/number (7-360) (one entrance without approval of land development official) ▪ Proper entrance alignment (7-361) (CL to CL or 125' minimum offset) ▪ Parking court access easements (7-363, 7-370)			

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Article 7: Transportation (con't) ▪ Provide for "No Through Traffic" (7-370) ▪ Proper landscaping provided (7-370) (refer to Zoning Ordinance) ▪ Design noise abatement facilities requested per Town Council (7-380) ▪ Adequate pavement designs (7-410) (6" 21A, 2" BM-3, 1-1/2" SM-3, local road 6" 21A, 6" BM-3, 1-1/2" SM-3 through collector) ▪ CBR tests at 500' intervals (7-420) (modification of design construction phase) ▪ Proper parking space dimensions (7-520) (standard and handicap refer to Zoning Ordinance) ▪ Handicapped parking indicated by sign and striping per ANSI (7-520) ▪ Proper aisle widths provided (7-520) ▪ Maximum contiguous parking spaces does not exceed 20 (7-520) ▪ Turnaround provided for AASHTO SU vehicle (7-520) (parking bays with 20 or more spaces) ▪ Proper slope provided within parking lot (7-520) (maximum 7%) ▪ Bond amount shown for street lights (7-610) ▪ Provisions for street lighting (7-620), 7-640) (public roads, commercial entrances) ▪ Proper location and size for sidewalks and trails (7-710) (minimum width 4', maximum cross slope 2.08%, maximum longitudinal slope 5%) ▪ Brick faced sidewalk in historic area (7-710) ▪ Adequate trail design (7-720) (width 6' minimum, vertical clearance 10', minimum 12' easement, 20' min. turn radius, max. slope 10%) ▪ Highway bridges require VDOT approval (7-800) ▪ Independent review required by Director for special structures (7-800)			
Article 8: Vegetation Preservation and Planting ▪ Location and size 18" DBH or larger trees (8-310) ▪ Limits of clearing and grading delineated (8-310) (minimum 5' from trees to be saved) ▪ Adequate drainage for trees (8-420) (no impounding of water for 48 hours within drip line of trees to be saved)			

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Article 9: Geotechnical Guidelines ▪ Required in-depth soils and a geotechnical review provided (9-100) ▪ Compliance with section including terrain, surficial description and recommendations (9-230) ▪ Compliance with section (narrative, geologic cross sections, groundwater locations, recommendations) (9-230) ▪ Blasting information if applicable (9-230) ▪ Written statement of review and compliance with geotechnical review (9-510) ▪ Written report and inspection provided and required (9-611) ▪ Written note on as-builts of guarantee for one year against settlement (9-713) ▪ Proper materials for use as fill (9-720) ▪ Approval of Director required for location of stockpiles (9-730) ▪ Provide note stating "Contractor to Provide Record of all Blasting to Director with locations, depths, number of holes and quantity of explosives each day" (9-741) ▪ Test pits provided (9-750) ▪ Sheeting and shoring provided meeting Directors requirements (9-751) ▪ Dewatering details and calculations provided (9-753) (based on geotechnical investigations) ▪ Directors approval is required for all borrow locations (9-755) ▪ Backfill meeting VDOT requirements (9-760) ▪ Parking lots, courts, driveways meet minimum pavement requirements (9-763) ▪ Minimum cover for electric utilities (9-770) (minimum 2' required) ▪ Maintaining one lane of traffic during utility construction (9-770) ▪ Contractor/soil test service reports on fill material (9-784) ▪ Conformance with specifications of core trench (9-788) (min. width 4', min. depth 4', sides 1:1 or flatter extending to riser crest elevation) ▪ Minimum riser specifications (9-791) (watertight connection, prevent flotation, 1.25 factor safety) ▪ Minimum anti-seep collar requirements (9-791) ▪ Minimum bedding requirements (9-791) (concrete cradle required) ▪ Proper construction techniques employed to reduce erosion in place (9-794) ▪ Riprap conformance with state criteria for soils (9-795)			